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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/576,598	05/22/2000	Solomon W. Golomb	06666-032001	1702

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EXAMINER
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ORTIZ, BELIX M

ART UNIT	PAPER NUMBER
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2164

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/576,598

Applicant(s)

GOLOMB ET AL.

Examiner

Belix M. Ortiz

Art Unit

2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-16,19,21-26,29,31-33,35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-16,19,21-26,29,31-33,35 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**SAM RIMELL**  
**PRIMARY EXAMINER**

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Remarks*

1. In response to communications files on 9-March-2006, claims 35-36 are added and claims 1, 19, and 29 are amended per applicant's request. Therefore, claims 1, 3-16, 19, 21-26, 29, 31-33, and 35-36 are presently pending in the application.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 3-16, 19, 21-22, 29, 31-33, and 35-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 1 recites the limitation "the non-trivial quasigroup" in lines 8 and 9 and "the result or the resulting" in lines 8, 10, and 11. There is insufficient antecedent basis for this limitation in the claim.
5. Claims 3-16, 22, and 35 are rejected under 35 U.S.C. 112, second paragraph, as being dependent from rejected dependent claim 1.
6. Claim 3 recites the limitation "the crossed-inverse" in line 2 and "said ci-quasigroup" in line 3. There is insufficient antecedent basis for this limitation in the claim.

7. Claims 5, 9, 10, and 21 recites the limitation "said quasigroup" in line 2. There is insufficient antecedent basis for this limitation in the claim.
8. Claim 6 recites the limitation "said crossed-inverse" in line 2; "said quasigroup" in line 3. There is insufficient antecedent basis for this limitation in the claim.
9. Claim 7 recites the limitation "said arithmetic" in line 2; "said second arithmetic" in line 3; and "said first arithmetic" in lines 4. There is insufficient antecedent basis for this limitation in the claim.
10. Claim 12 recites the limitation "said first interiation" in line 1. There is insufficient antecedent basis for this limitation in the claim.
11. Claim 13 recites the limitation "said first direction" in line 1 and "said second direction" in line 2. There is insufficient antecedent basis for this limitation in the claim.
12. Claim 16 recites the limitation "the decryption" in line 4. There is insufficient antecedent basis for this limitation in the claim.
13. Claim 19 recites the limitation "the quasigroup" in lines 6-8 and "the result or the resulting" in lines 7, 9, and 11. There is insufficient antecedent basis for this limitation in the claim.

14. Claims 31 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being dependent from rejected dependent claim 19.
15. Claim 29 recites the limitation "the quasigroup" in lines 6-8. There is insufficient antecedent basis for this limitation in the claim.
16. Claims 31-33 are rejected under 35 U.S.C. 112, second paragraph, as being dependent from rejected dependent claim 29.
17. Claims 31 and 32 recites the limitation "said arithmetic" in line 1. There is insufficient antecedent basis for this limitation in the claim.
18. Claim 33 recites the limitation "the original encryption. There is insufficient antecedent basis for this limitation in the claim.
19. Claim 4 have the phrase "can be" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
20. Claims 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being dependent from rejected dependent claim 4.

*Claim Rejections - 35 USC § 101*

21. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

22. Claims 1, 3-16, 19, 21-26, 29, 31-33, and 35-36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Directed to an abstract math technique.

Practical Application That Produces a Useful, Concrete, and Tangible Result

For eligibility analysis, physical transformation “is not an invariable requirement, but merely one example of how a mathematical algorithm [or law of nature] may bring about a useful application.” AT&T, 172 F.3d at 1358-59, 50 USPQ2d at 1452. If the examiner determines that the claim does not entail the transformation of an article, then the examiner shall review the claim to determine if the claim provides a practical application that produces a useful, tangible and concrete result. In determining whether the claim is for a “practical application,” the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is “useful, tangible and concrete.” The claim must be examined to see if it includes anything more than a § 101 judicial exception. If the claim is directed to a practical application of the § 101 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101. If the examiner does not find such a practical application, the examiner has determined that the claim is nonstatutory.

In practical terms, claims define nonstatutory processes if they:

- consist solely of mathematical operations without some claimed practical application (i.e., executing a “mathematical algorithm”); or
- simply manipulate abstract ideas, e.g., a bid (Schrader, 22 F.3d at 293-94, 30 USPQ2d at 1458-59) or a bubble hierarchy (Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759), without some claimed practical application.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Belix M. Ortiz whose telephone number is 571-272-4081. The examiner can normally be reached on moday-friday 9am-5pm.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bmo

May 26, 2006

  
**SAM RIMELL**  
**PRIMARY EXAMINER**